A.I.D. Project Impact Evaluation Report No. 23

Northern Nigeria Teacher Education Project

September 1981

U.S. Agency for International Development (AID)

PN-AAJ-173

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NORTHERN NIGERIA
TEACHER EDUCATION PROJECT

PROJECT IMPACT EVALUATION NO. 23

by

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FOREWORD

In October 1979 the Administrator of the Agency for International Development initiated an Agency-wide ex-post evaluation system focusing on the impact of AID-funded projects. These impact evaluations are concentrated in particular substantive areas as determined by A.I.D.'s most senior executives. The evaluations are to be performed largely by Agency personnel and result in a series of studies that, by virtue of their comparability in scope, will ensure cumulative findings of use to the Agency and the larger development community. This study of the impact of the Northern Nigeria Teacher Education Project was undertaken as part of this effort. A final evaluation report will summarize and analyze the results of all of the studies in each sector, and relate them to program, policy and design requirements.

EXECUTIVE SUMMARY

In the early 1960 education not only was identified as a basic and urgent need for most newly independent countries, but it was the cutting-edge of competition among the world powers for the friendship of newly independent Africa. Soviet Russia sent African scholarship students to Patrice Lumumba University in Moscow. The European powers accelerated their recruitment of scholarship students, and they also provided African schools with teachers and teaching materials. To meet real development needs and in pursuit of its own long-term poltical strategy, the United States followed a four-fold strategy: scholarship students were sent to American colleges and universities; new schools were built in Africa with American funds; technical assistance and staff were provided to develop particular educational institutions; and American concepts of education, especially curriculum and teaching methods, were exported by means of particular projects.

The Northern Nigeria Teacher Education Project (NNTEP) is an example of the fourth strategy. American educational philosophies were to be substituted for a well-entrenched English educational system. The present evaluation examines the successes and failures of this replacement strategy.

NNTEP was implemented over a five-year period, 1965 through 1969. The Ford Foundation funded the first two years. AID was the major source of support for the final three years.

The project was only partially successful in realizing its goals of improving the quality and efficiency of teacher education. The project, however, somehow survived a civil war, the division of a single region into six separate states, inadequately structured work and authority roles for the American technicians, contractor tardiness in preparing curricular materials, a truncated perspective on how schools function, and other deficiencies in design and perspective. Despite these obstacles and the absence of appreciable end-of-project progress in realizing the original project objectives, NNTEP was a partial success partly because of its unanticipated positive impacts. It strengthened institutions and trained staff who played significant roles in Northern education, one of the original purposes of the project. Structural features built into the Northern Nigerian education system laid the basis for constructive change and the development of a consensus on educational issues.

The project's successes and failures offer AID lessons for future participant-training programs, the structural mechanisms appropriate to projects operating in a multi-state federal system, the time perspective appropriate for curriculum reform projects, factors in selecting an American university as a project contractor, how to structure the delivery of technical assistance, and the importance of addressing least-cost solutions either within a project or outside it.

Nigeria has emphasized the role of education in national development. The Ashby Report published in 1960 specifically linked education to the development of higher level manpower. For cultural, political, economic, and religious reasons, Northern Nigeria lagged educationally far behind the rest of the country. Less than ten percent of the North's primary school age children were enrolled in officially recognized, formally organized primary schools, in contrast to 75 percent elsewhere in Nigeria.

Educational development was predicated primarily on the need for higher level manpower. The top of the pyramid, the end-products of the educational system, dictated what was offered at the base. Expansion of the base in turn was constrained by a lack of primary school teachers, and their supply was constrained by a shortage of teacher training colleges (TTCs) and qualified tutors in these colleges. Quality was also a major problem. Negative selection affected the quality of students at the TTCs. These colleges did not select-out students for poor performance; schools emphasized rote learning and obedience; and in addition to a serious shortage of learning materials, textbooks were England-oriented and largely irrelevant to Nigeria. As a result, teachers and teaching in the primary schools were themselves of low quality.

Even before independence, AID supported education projects in Nigeria. Education was the Mission's oldest sizeable program sector. AID was responsive to the need for education development in the North. In 1962 the Mission entered into the first of several contracts with the University of Wisconsin to review and make recommendations on the development of primary education in the North. These studies resulted in the Northern Nigeria Teacher Education Project (NNTEP), a project supported primarily by Ford for calendar years 1965-66 and primarily by AID for the next three years.

NNTEP's goal was to supply trained manpower necessary for Northern Nigeria's economic and social development. This was to be accomplished by improving the quality and efficiency of primary teacher training in the North. Wisconsin's job was to (1) develop curricular materials and new teaching techniques, (2) encourage Teacher Training Colleges (TTCs) and education authorities to adopt and use these innovations in a professional manner, and (3) help assure project continuity by educating participant-trainees and counterparts, and by providing the Ministry of Education (MOE) of the Government of Northern Nigeria and the Institute of Education (IE) at Ahmadu Bello University in Zaria with assistance in their development. It fulfilled these tasks by placing tutors in seven TTCs and experts in the MOE and IE. The creation in 1967 of six states out of one region and the start of the Nigerian civil war in the same year reduced the number of tutors, the number TTCs assisted, and the amount of curriculum development work possible.

AID made several significant changes in the project when it assumed funding responsibility in 1967. Participant-training was added, the Agency insisted that the contractor and the host government comply with the original requirement to develop and diffuse curricular materials, and

renewed attention was given to strengthening the Institute of Education. USAID concluded that, although the teaching activities of Wisconsin tutors would have a lasting effect on teacher education, "the development of new curricula, instructional methods and material, and the work of the specialists with their counterparts...will have a far more lasting and widespread influence on the improvement of teacher education in the North."

NNTEP participant-trainees, counterparts, and students played a significant role in the development of education in Northern Nigeria. All 15 trainees returned home and currently occupy prominent leadership roles in the education sector. At least one of the two or three highest educational posts in six of the ten current Northern states is occupied by either a trainee or a counterpart.

It is difficult to trace the impacts and acceptance of NNTEP-developed curricular materials. The project's curriculum philosophy was supportive of national reform trends at the time. NNTEP, however, was tardy in producing its teaching materials. The Wisconsin tutors were not experienced in curriculum development, and their TTC work assignments left them little time to devote to this feature of their assignment, one that AID felt was especially important. Although curriculum development efforts were delayed, the Wisconsin staff eventually produced materials in five subject areas. The contractor and the IE were able to encourage adoption, use and further development of these materials by channeling them through boards of study established for separate examination topics. These boards and the IE also helped develop a regional consensus on examinations and curriculum, a major accomplishment in light of the potential cultural and educational balkanization of the region now split into several states.

Examination pass rates indicate that quality declined over the years. With the adoption of Universal Primary Education, Nigeria emphasized quantity rather than quality, a central purpose of NNTEP. Organizational influences also affect quality. Nigerian education lacks the means to assure the adequate use of materials and techniques that will help improve quality. NNTEP ignored organizational influences on how schools operate and produce quality education.

The project also failed to impact positively on efficiency with regard to student learning and manpower utilization. NNTEP, however, did contribute to the development of the IE, a major educational resource and influence in Northern Nigeria. On balance, the project was a success.

NNTEP Offers AID Seven Major Lessons

1. Participant-training was highly successful because the trainees were non-university degree mid-career professionals working in an expanding sector that offered unusually good career opportunities. These factors may well have relevance in other cases.

2. Projects involving adoption and use of innovative techniques within a multi-state federal system require both a single central

implementing agency and the establishment of institutional networks and mechanisms for diffusing and coordinating the work flow of these networks. A complete constraints analysis can contribute to project design and success.

3. Donor agencies and host governments can not take it for granted that curriculum reform will be accomplished in a short period of time.

4. The host government is more likely to draw on an American university contractor for continuing assistance if the university is recognized as a superior institution. Encouragement to maintain the links established under the project can help provide continuity and even no-cost follow-up to sustain project success. These contacts also foster positive attitudes toward America and its universities.

5. The delivery of technical assistance should be structured in a manner that minimizes dual responsibilities and multiple if not conflicting supervisory authorities. NNTEP also demonstrates the need to plan projects with realistic time schedules, work assignments, staff needs, and careful monitoring and evaluation.

6. AID should demonstrate to host governments that there are alternative least-cost solutions to stated policy goals. The agency lost sight of the resources required for a significantly expanded education system, and it also lost sight of the overall manpower development goals of the project. Human resource development in the North was predicated on a concern with higher level manpower, not on the economic base and manpower needs of the region.

7. Participant-training is a least-cost strategy to assure long-term project continuity and institution-building.

PROJECT DATA SHEET

Project Title: Northern Nigeria Teacher Education Project

A.I.D. Project Number: 620-51-640-710

Project Starting Date: January 1, 1967

Project Completion Date: December 31, 1969

Project Expenditures: (Final Audit Report, March 13, 1972)

		Dollars	Percent
U.S. Personnel Costs		$1,861,000	68%
Local and Third Country Nationals Personnel Costs		88,000	3
Participants		91,000	3
Commodities		197,000	7
Other Costs			
Direct AID	$130,000		
Contracts	356,000	486,000	18
		2,723,000	99%

An additional £18,479 from the local currency trust fund to cover publication costs (equal to about $52,000)

Combined AID-Ford Foundation dollar expenditures of $5,358,000, 51 percent by AID, 49 percent by Ford.

U.S. Contractor: University of Wisconsin

Project History:

1962 Contract with University of Wisconsin to review and make recommendations on the expansion of primary education in Northern Nigeria, with special emphasis on physical facilities.

1962 Second contract with the University of Wisconsin to prepare a proposal for further development of primary and teacher education in the North.

1965-66 First two calendar years of NNTEP supported by the Ford Foundation.

1965 Contract with University of Wisconsin to prepare a proposal for continuation of NNTEP under AID auspices.

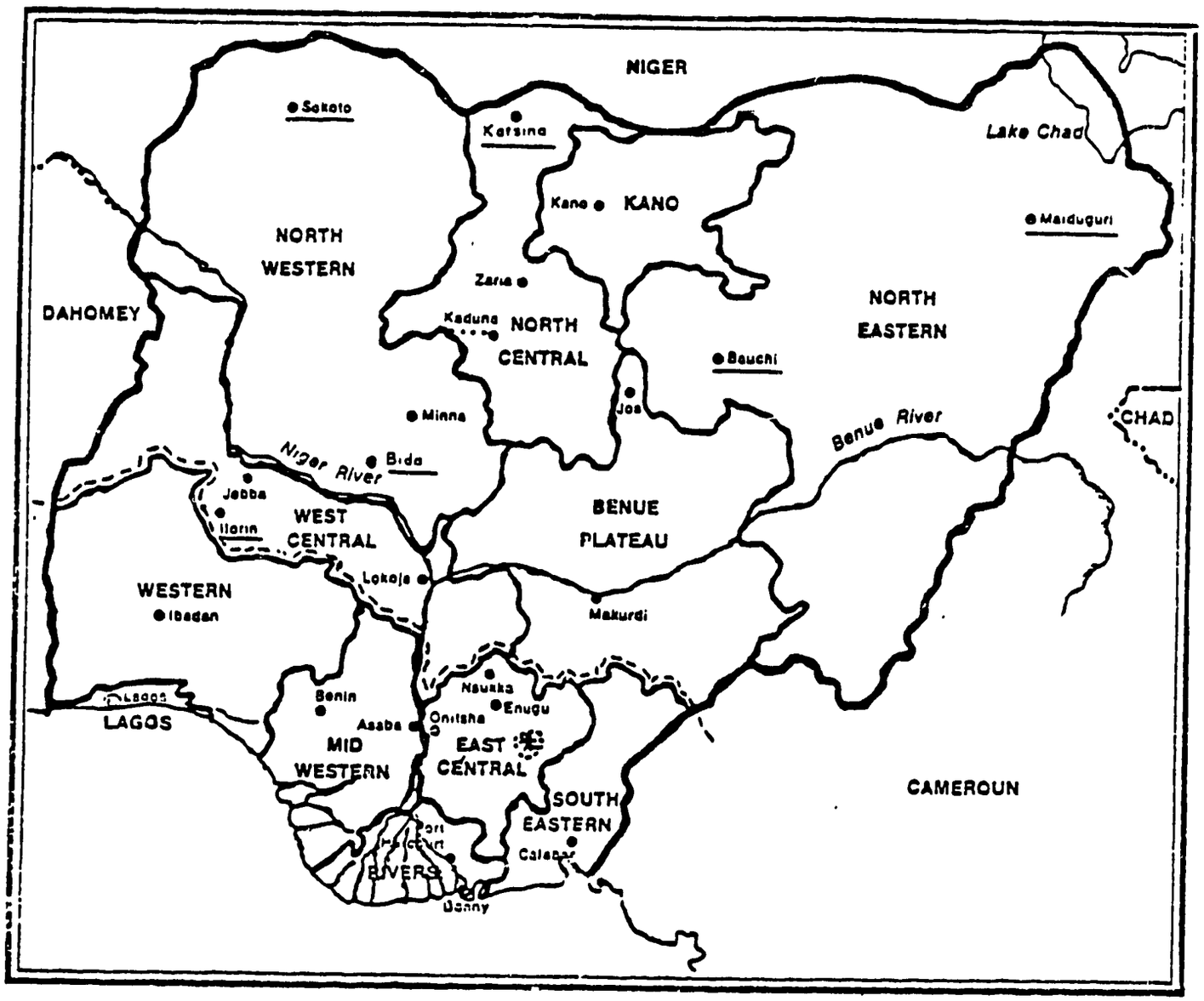
1967-68 Second two calendar years of NNTEP supported by AID, with supplementary funding from the Ford Foundation.

1969 One-year extension of project supported by AID. Project further extended to February 28, 1970 for administrative reasons only.

Glossary

ABU	Ahmadu Bello University, Zaria
ATC	Advanced Teachers College
GONN	Government of Northern Nigeria
IE	Institute of Education, ABU
MOE	Ministry of Education
Naira	Nigerian monetary unit. Official exchange rate early 1981, 1 ₦ = $1.73
NNTEP	Northern Nigeria Teacher Education Project
TTC	Teacher Training College
UPE	Universal Primary Education

NIGERIA, 1969



------ Southern boundary of northern states

_____ Colleges with NNTEP staff

. . . . . Kaduna—NNTEP Office

I. PROJECT SETTING

There were many reasons why education in Northern Nigeria lagged so far behind the rest of the country when it became independent of British colonial rule in 1960. A region of 282,782 square miles and over 20 million people, the North was characterized by cultural diversity and economic underdevelopment. Eighty percent of the male working force was in the agricultural sector, living in dispersed small settlements. About 30 percent of the population engaged in subsistence farming. There were seven major tribes but over 100 distinct ones speaking some 59 languages and dialects. Moslems predominated in the northern tier of provinces; Protestant and Roman Catholic missionaries were active elsewhere, although a majority of the population in the middle southern tier of provinces followed traditional tribal religions.

The North was not as receptive as the other regions to Western formal education. Britain's policy of indirect rule--working through 13 provincial councils and some 66 native authority areas--helped preserve the region's educational disadvantage. The expansion of Christian missions and their schools was also closely controlled. It is little wonder, therefore, that in 1960 less than ten percent of the North's primary-school age children were enrolled in recognized formally organized primary schools, in contrast to 75 percent in Southern Nigeria.

Education was central to the development strategies of both outside powers and Nigeria. The sector was the cutting-edge of competition among the world powers for the friendship of newly independent African countries. The United States, which provided Nigeria with an "independence gift" of about $250 million, followed a four-fold educational strategy in Nigeria: scholarship students were sent to American colleges and universities; new schools were built in Nigeria with American funds; technical assistance and staff were provided to develop particular educational institutions; and American concepts of education, especially curriculum and teaching methods, were exported by means of particular projects.

The Northern Nigeria Teacher Education Project is an example of the fourth strategy. American educational philosophies were to be substituted for a well-entrenched English educational system. The present evaluation examines the successes and failures of this replacement strategy.

After independence, education in general, and particularly in the North, became the centerpiece of development strategies. With support from the Carnegie Corporation, a Commission on Post-School Certificate and Higher Education was created in 1959. Its 1960 report (the Ashby Report) linking education to manpower development was based on three premises: 1) by 1980 Nigeria would become a nation of 50-million people

with modern industries, oil, and agriculture; 2) Nigeria would have a massive need for higher level manpower--the number of senior personnel would have to double from 15,000 to 30,000 by 1970, and intermediate personnel more than triple; and 3) the present capacity of the education system was grossly inadequate. The educational pyramid needed to broaden to provide more post-primary pupils who in turn would attend post-secondary schools. The Commissioners emphasized that their recommendations were "massive, unconventional, and expensive." The rate of investment in education they sought far outstripped the expected growth of the economy by 1970.

Educational development was predicated primarily on the need for higher level manpower; the top of the pyramid--the end-products of the educational system--influenced what was to be offered at the base. The expansion of the base was constrained by a lack of primary school teachers, and their supply was constrained by a shortage of teacher training colleges (TTCs) and qualified tutors in these colleges.

The TTC (or Grade II teachers college) is a specialized institution designed to serve a specific function, to prepare primary school teachers. Students in these colleges typically entered directly after completing six years of primary school; if they passed the West Africa Examinations at the end of their five-year program, they were awarded the Higher Elementary (Grade II) Certificate. Only 48 percent of those sitting for the exams in 1961 passed them. The exams themselves influenced the curricula, syllabi, and teaching materials used in TTCs. Primary teachers were classified in one of four professional grade levels or as uncertified. In 1961, only 14 percent of the teachers were certified as Grade II or higher; 41 percent were not certified at all. Educational expansion, therefore, had to address both the quality and quantity of teachers.

Low quality had many causes. There was negative selection into TTCs. These colleges were the only alternative for those who failed to win a place in secondary grammar schools. TTCs did not select-out students for poor performance; schools emphasized rote learning and obedience; and in addition to a serious shortage of learning materials, textbooks were England-oriented and largely irrelevant to Nigeria.

Northern Nigeria's educational targets called for each province to have a minimum of 28 percent of all six-year olds enrolled in class 1 by 1970. (Ashby's 1970 target of having 25 percent of all children completing primary school was subsequently reduced to 16.5 percent.) The total number of students would increase from 316,264 in 1961 to 828,914 in 1970. This would require a 160 percent increase between 1961 and 1970 in the number of teachers (from 9,036 in 1961 to 23,682 in 1970); the number of unqualified teachers was to be reduced to only 13 percent of the total. There were 42 TTCs in 1961. In 1962 there were 49: 33 men's colleges, five co-educational, and 11 for women. Nineteen of the colleges were operated by government; the others were operated by

voluntary (church) agencies. There were 4,619 students in these colleges. The schools themselves were boarding rather than day institutions. Somewhat over half of the 342 staff members of the TTCs in 1961 were non-Nigerian, and they were leaving their teaching posts at a much faster rate than they could be replaced. Northern Nigeria's educational expansion plans gave a central place to teacher training. Therefore, teacher-training problems were defined in quantitative as well as qualitative terms.

AID initiated its first education projects two years prior to independence. Although the Mission apparently never sponsored an education sector assessment, it developed an array of complementary projects. Education was the oldest sizeable component of the entire program. AID evolved at least an implied system that, prior to the present project, included 14 separate education projects, exclusive of educational activities in the agricultural and other sectors. These included educational planning, test development, book publishing, communications media, comprehensive high schools, Advanced Teachers Colleges (ATC), and universities. At least six projects (four in agriculture) focused specifically on the North. Curriculum development, the preparation of teaching materials, and in-service training for primary school teachers were all part of the Mission's education portfolio.

Northern Nigerian education, teacher training, and U.S. assistance to the sector were not isolated developments. Other donors also contributed to Nigerian development programs, including those in education. In 1963, AID, 21 countries, 13 international agencies, and 8 private foundations provided Nigeria with assistance, including help in the education sector. Educational development, therefore, was an evolving system influenced by a number of different actors and specific projects. This "systemic" nature of education complicates the task of tracing the effects of a project that was terminated on December 31, 1969, more than 11 years prior to the present impact evaluation.

II. PROJECT DESCRIPTION

A. Goals, Purposes, Outputs

Long before AID developed its current design and evaluation system, the Northern Nigeria Teacher Education Project (NNTEP) was designed, implemented, and terminated. Available records imply that the goal of the project was to supply trained manpower necessary for Nigerian economic and social development. Human resource development was a central concern, and this meant an increase in the number of educated and educable manpower. As the Ashby report stated, "expanding and improving the quality of primary education" would "build a sound educational pyramid that will provide sufficient students to meet the required enrollments in secondary schools, technical institutes, and the universities."

The project had two major purposes: to improve the quality and the efficiency of primary teacher training in the North. Efficiency had two meanings: (a) the optimum deployment of scarce high-quality teachers; (b) "better learning"--that is, development and use of resources that enable pupils to learn more in a given period of time. Efficiency was thus linked to quality.

Several other aims of the project not clearly addressed in the project design caused confusion. First, the contractor and AID differed in their understanding of the activities of the tutors in the seven (later four) TTCs. The contractor initially felt that NNTEP was to achieve its purposes in "selected schools as a necessary step in the process of expanding and improving education in Northern Nigeria as a whole." AID felt that these particular colleges were learning and demonstration labs only and that the project's purpose was not to strengthen these particular institutions. Second, AID did not feel that the project's purpose was to provide tutors for TTCs and to train a given number of students in these colleges. Instead, the emphasis was on qualitative rather than quantitative targets. The contractor initially emphasized more limited quantitative targets. (A separate project provided loan funds for the expansion of existing TTCs and the construction of new ones.) Third, although mention was made of inter-regional, intra-regional, and male-female differences in access to education, equity did not appear as a clear purpose. The emphasis was on efficiency, not equity.

To achieve NNTEP's purposes, the project had three objectives. First, NNTEP was to improve course syllabi, instructional materials, examinations, and teaching techniques; it was to prepare curricular materials for five-year programs in English, mathematics, geography-history, and science (added later), as well as a two-to-three-year program in educational principles. The contractor was to oversee publication and distribution of 29,000 volumes of materials. To improve efficiency, changes were proposed in staffing patterns, including the adoption of team-teaching, flexible grouping of staff and students (larger class sizes), cooperative planning on the part of the American tutors and their Nigerian counterparts in seven TTCs, and new techniques to evaluate the results of curricular and teaching innovations.

The project's second objective was to promote adoption and use of the curricular and teaching innovations throughout the TTC system in the North, and to further refine and develop them.

The third objective addressed sustainability. Three strategies were proposed to insure continuity: (1) provide advanced training in the U.S. for 18 (later 15) participant-trainees and in-service training for up to 100 counterparts--these trainees were to continue the work of the contractor after the project's termination, although the trainees did not return until after the contractor had left the country; (2) strengthen

the Ministry of Education (MOE) within the Northern Region--AID provided assistance in evaluating NNTEP-developed materials and techniques, incorporating them into the Ministry's policies, programs, and procedures, as well as assisting the Inspectorate Division; and (3) provide assistance in developing the Institute of Education (IE) at Ahmadu Bello University in Zaria (ABU). The MOE had proposed "to give the Institute a commanding position in teacher education." When created in 1965, the Institute organized the then 52 TTCs into eight regional groups. In each region, group boards of study (each representing a specific curriculum or examination area) were organized. These boards were responsible for setting, monitoring, and marking examinations and served as a conduit for the dissemination of research, curricular revisions, teaching materials and techniques, and in-service training. NNTEP tutors taught in seven colleges located in six of the eight regional groups established by the Institute.

The School of Education of the University of Wisconsin, Madison, was the contractor for NNTEP. It was to provide teams of approximately four teachers each to seven different TTCs in six widely dispersed locations: Sokoto, Katsina, Maiduguri (Bornu Men's College and Maiduguri Women's College as one joint effort), Bauchi, Bida, and Ilorin. These seven colleges enrolled 25 percent of all teacher trainees at the time. The Wisconsin tutors had dual responsibilities: they were to devote 70 percent of their time to teaching and 30 percent to developing curricular materials. In addition to the Chief of Party and the business staff, the contractor provided two consultants to the IE and one to the MOE. Ohio University also had a consultant with the IE, and in some documents, the two universities were considered joint contributors to a single project.

B. History of the Project

In 1962 USAID contracted with the University of Wisconsin to provide educational consultants to the Government of Northern Nigeria (GONN) to review and make recommendations on the expansion of primary education, the development of programs for preparing primary teachers, and for expanding the primary teacher training colleges. Wisconsin's major responsibility was to prepare documentation for a loan application for physical facilities, a project subsequently approved but not implemented until 1969-70. A follow-on contract was awarded Wisconsin in late 1962 to prepare a proposal for further development of primary and teacher education. The resulting report was as close to a sector analysis as anything available at the time. It emphasized numbers and structure; it did not analyze how the education system actually operated, how it related to manpower needs, or what the constraints were on the development and adoption of curricular and teaching innovations or on improving efficiency.

The University's draft proposal was tentative; it lacked a specific scope of services and a timetable for work to be accomplished. Its views were consistent with those of the GONN but they were not shared by AID.

Wisconsin recommended that AID could make a major contribution by contracting with an American university to recruit tutors for the TTCs. The proposal did not assign priority to participant-training and curriculum-development. Individual TTCs and the GONN seemed primarily interested in obtaining full-time teachers. USAID was unwilling to accept this expensive stop-gap measure. Wisconsin realized that it needed to provide a development orientation in order to secure Agency funding. This led to the emphasis on curriculum and textbook development, new teaching methods, and institution-building in order to diffuse the products of the project.

AID played a major role in initiating and designing NNTEP, but it did not have the funds to initiate its implementation. The Ford Foundation was approached for funding for the first two years, 1965-66, with the understanding that AID would assume responsibility for the final two years. Ford supplied $2,110,000 and a subsequent additional $525,000. AID's total expenditures were $2,723,000 plus about $52,000 in local currency.

Prior to assuming its funding responsibilities in 1967, AID asked Wisconsin to review progress to date and recommend proposals for the future. The University suggested a fifth subject area, science education, be added to the curriculum and materials development tasks. Wisconsin also proposed a participant-trainee component of five to ten trainees. Although some people within the GONN and the newly created ABU were opposed to the concept of participant-training, feeling it was too expensive and also removed needed personnel, USAID was already supporting a large number of participant-trainees elsewhere in Nigeria and was able to win acceptance for 18 NNTEP trainees.

AID insisted on two other changes. First, and most controversially, the Agency insisted that both the contractor and the host government comply with the original requirement that curricular materials be developed. Several reasons explain why this central concern had been neglected. Problems were built into the design of the project by assigning teachers dual responsibilities and multiple supervisors. The technicians were responsible to the principals, the chief of party, and, it appears, the IE and MOE. Although the teachers were supposed to spend a maximum of 70 percent of their time teaching, TTC principals, seriously short of staff, charged them against the colleges' staffing numbers. Given the staff shortages, no one, including the Ford Foundation, challenged the principals to reduce the teaching loads of the tutors. It also appears that Wisconsin recruited technicians with little experience in curriculum development. With minor exceptions, none of the staff sited in the TTCs were regular members of the Wisconsin faculty. USAID concluded that, although the teaching activities of the contractor's staff would have a lasting effect on teacher education, "the development of new curricula, instructional methods and material, and the work of the specialists with their counterparts...will have a far more lasting and widespread influence for the improvement of teacher education in the

North." AID's pressure resulted in changes in the time allocation of staff, and in the recruitment of regular Wisconsin faculty experts in curriculum development for short term assignments. Still, the contractor fell behind in the development of teaching materials, which subsequently adversely affected the dissemination of the innovations developed by the project.

AID's second change was to re-emphasize the role of the IE. The Permanent Secretary of the MOE argued in 1964 that "it would seem logical for the Wisconsin headquarters to work under the over-all supervision of the Director of the Institute." Ford urged Wisconsin to shift its office staff and some of the teachers in the TTCs to the Institute. Wisconsin was reluctant to do so for several reasons. A two-man supervisory team from the Madison campus concluded that its technicians were recruited for specific assignments and that to change them would create serious personnel problems. The arrangement of working through Boards of Study was thought to be sufficient. Wisconsin also felt that "the functions of this body do not fall within the plan of work for the continuation of NNTEP." AID and others apparently disagreed with Wisconsin's analysis. Despite its reservations about the role of the Institute in the overall Wisconsin effort, the University did provide the Institute with valuable assistance.

In 1967, the creation of six states out of one region in the North and the start of the Nigerian civil war affected NNTEP. Creation of the new states decimated the staff of the former MOE. In order to continue serving the six new ministries of education, six separate AID contracts were now needed. The withdrawal of staff assistance to the single ministry meant that whatever project evaluation that was built into the project was cancelled. On the other hand, the IE took on new responsibilities and functions. It became the accepted centrally-located service agency for the separate state MOEs.

The civil war, which lasted until January, 1970, led to delays in recruiting the second wave of Wisconsin teachers. The number of TTCs was reduced from seven to four; the number of teachers was cut from 30 to 19; the number of participant-trainees was cut from 18 to 15; and the amount of curriculum development work possible with a reduced staff was similarly lowered. Because of a combination of loss of momentum and two years of delay in developing curricular materials, the project was extended another year, to December 31, 1969.

The civil war also led USAID to recast its education strategy and to terminate the project. AID shifted its emphasis to strengthening the national education system as a means of effecting national integration in the wake of a divisive civil conflict. Projects and institutions that had region-wide or national impact--such as IEs--would be supported; localized projects--for example, the strengthening of individual TTCs--received low priority. NNTEP was allowed to terminate before its products were fully diffused, adopted, and revised. AID did not allow

the cycle to be completed, although the contractor's delay also contributed to what many still feel was a premature and short-sighted termination of a project that in its final USAID-funded phase did begin to produce the intended outputs.

Nigeria made significant educational changes and gains after 1970. Many state governments took over the voluntary agency schools; various new national advisory and coordinating bodies were created, along with a number of new service agencies; a national policy on education was proposed, and perhaps most importantly, a national policy on universal primary education (UPE) was launched in 1976. In 1974 one study concluded that 163,000 additional teachers were needed in order to initiate this ambitious program, and crash teacher-training programs were started to help meet this need. The quantitative goals of UPE overshadowed the qualitative goals of NNTEP. Before the start of UPE, however, AID phased out its Nigerian program and Mission. The Agency never had to deal with how to build NNTEP goals into UPE, or how to preserve quality when quantity was being emphasized.

III. FINDINGS AND ANALYSIS

A. Beneficiaries and Their Impacts

1. First-Order Beneficiaries

First-order beneficiaries fell into two groups: participant-trainees and the counterparts of American staff in TTCs, the IE and the MOE. All 15 of the participant-trainees sent to Wisconsin have returned to Northern Nigeria. They are still in the education sector, and they have in the past and continue today to play significant educational roles. Nine of them are employed in state MOEs; four occupy the top civil service position (Permanent Secretary), and five others are chief inspectors of education. Three others are either director, dean or department chairman within a northern university, and the remaining three are principals of secondary or post-secondary schools. Six of the trainees earned at least one degree beyond the initial one they received from Wisconsin; three of them earned a second degree from Wisconsin.

Part of the credit for this remarkable record goes to the Nigerian officials who selected the trainees, but the educational environment at the time was also important. All 15 of the trainees were already in professional careers in education, a common situation for participant-training programs. Only 20 percent of them had attended a university. The others had missed their chance for a university degree. Under the English-oriented system at the time--and with so few Nigerian universities available--the participant-training program offered bright, energetic individuals an unusual second chance. With education expanding so rapidly, with the creation of six (now ten) new states, and

with a relatively lagging private sector in the North, the education sector provided the trainees especially good career opportunities.

Former trainees that the team interviewed for the evaluation felt that Wisconsin expanded their horizons and gave them new perspectives. They felt that the exposure to educational developments in the U.S. at the time was more important to their subsequent careers than the degrees they earned. Most of the trainees seemed to have had a fairly negative image of American universities before leaving Nigeria. They returned with much more favorable attitudes toward America and American universities.

Because NNTEP terminated before they returned to Nigeria, the trainees had no transition period working with the Wisconsin people in-country. Nonetheless, trainees and others associated with the project form a loose network that has maintained its linkage with Wisconsin staff. For example, it was partly through this network that an estimated 38 Northern Nigerians attended the School of Education at Wisconsin between 1971 and 1980. (1,099 Nigerians, including an estimated 101 from the North, enrolled in the University during this ten-year period.) Former NNTEP tutors personally arranged for the placement of Northern Nigerian educators in a number of schools in Wisconsin; Wisconsin faculty members serve as visiting members at ABU; and as late as May 1981, one of the new Northern universities had Wisconsin faculty members advise them on the development of a school of education. Two former Wisconsin tutors in TTCs have returned to ABU as prominent faculty members, and along with the Director of the University's IE, also a trainee who earned his Ph.D. at Wisconsin, the NNTEP network continues to operate in both countries.

NNTEP had much more fleeting contact with the teacher counterparts assigned to the American tutors in the TTCs. The counterparts were supposed to spend two years with the Wisconsin tutors; in fact, there were up to five different counterparts per tutor in a single year, and almost all of the principals of these colleges changed during the first two years of the project. The Wisconsin team felt that their counterparts had too brief an exposure to the methods and materials under development. Little continuity existed on the Nigerian side. There were approximately 100 counterparts, a number of whom were expatriates in the colleges, the MOE, and the IE. The evaluation team was able to trace the careers of 17 Nigerian counterparts. Their careers parallel those of the participant-trainees; 65 percent are employed by MOEs, and the rest are evenly split between posts in universities and as principals of secondary schools. Unlike the trainees, however, none of them became a Permanent Secretary.

The present leadership roles played by trainees and counterparts suggest that the project had a significant impact on the development and current operation of the educational system. At least one of the two or three highest educational posts in six of the ten current northern states is occupied by either a participant-trainee or a counterpart. In three

states, at least two of the top three positions has an NNTEP-related incumbent. Only Bornu State has no NNTEP graduate in one of its top MOE posts; Bauchi, Kano, and Plateau have only relatively lower-ranking positions with NNTEP incumbents. On the other hand, over half (56 percent) of all trainees and counterparts are in two states only: Kaduna and Kwara. This concentration partially reflects the relatively limited geographical base of the beneficiaries. Geographical dispersion apparently was not a key feature in recruitment, although it was possible to build state-of-origin into the project, even after the creation of the six new states.

2. Second-Order Beneficiaries

AID emphasized qualitative goals relating to curriculum development. Pupils taught by Wisconsin tutors were second-order beneficiaries. An estimated 3600 to 5000 pupils were taught by the Wisconsin staff serving as tutors in the TTCs. These figures refer only to the AID-portion of the project and not the first two years under the Ford Foundation. In a cascading fashion, these students in turn have taught between 180,000 and 900,000 primary school pupils since graduating from a TTC. (See Annex C for these estimates.)

Many of the original TTC students had more exposure to the American tutors than the teacher counterparts did. Interviews with former trainees, counterparts, and students suggest that this prolonged personal and classroom contact significantly affected many pupils, a number of whom are only now completing their own studies. The evaluation team located seventeen of these former students who, by now, have become teachers themselves, and asked them to trace the educational and career histories of their friends at the time. Although the resulting sample is limited and biased, the career information they provided suggests that many of these pupils were encouraged by contacts with the Wisconsin tutors to continue their education. Less than eight percent terminated their education with a Grade II certificate; 61 percent had obtained a university degree. Equally significant, these former pupils have remained in the field of education, yielding additional cascading educational effects from the project. Almost 86 percent of those traced are in the education sector, mostly in primary schools or TTCs. About a third of these are in administration; the rest are teachers.

NNTEP had other second-order beneficiaries, including teachers and administrators at the schools visited by the inspectors assisted by advisors to the MOE. Working through the boards of study also gave Wisconsin access to all the students, teachers, and schools in the region. The curricular materials developed and distributed impacted all schools and pupils. And NNTEP staff also offered in-service courses and workshops to various TTCs not in the initial group of colleges. The first-order beneficiaries now in prominent positions are also carrying on the work of the American contractor. The existence of a "Madison

network" suggests that the initial NNTEP gave rise to a structure that influences those now responsible for education in Northern Nigeria.

This structure, however, is largely male-dominated. Very few Nigerian women occupy higher-level educational positions in the North. Women teachers only made minimal gains even at the primary school level, rising from about 14 percent of all teachers during the 1960s to about 17 percent in the mid-1970s. At the TTCs the proportion of women teachers grew from 25 percent in 1962 to 30 percent in 1966 but began to decline in the 1970s. In the absence of stronger economic and career incentives to seek additional schooling, the proportion of women incurring the real monetary and non-monetary costs of additional schooling is unlikely to grow substantially in the North. On the other hand, to the extent that AID emphasized TTCs rather than technical schools, and insofar as this influenced the direction of educational policy in the North, the project may have had some positive benefits for women. Northern technical schools are almost entirely male-dominated.

B. Impact on Curriculum, Curricular Materials, and Examinations

Even in the first years after independence, prior to NNTEP, Nigerians were calling for curriculum reform. At a meeting in Kaduna of the Joint Consultative Committee during the academic year 1964-65, Chief S.O. Awokoya presented a paper on "Need for Curriculum Reform in Nigeria." A National Curriculum Conference was proposed for 1966, although it was delayed until 1969. The proceedings were published as A Philosophy for Nigerian Education. A national syllabus for Grade II teachers colleges was developed, adopted, and distributed in the early 1970's.

NNTEP's curriculum philosophy was consistent with the national reform movement. The traditional education philosophy tended to emphasize rote-learning, imitation, exam-cramming, and end-of-course examinations (summative evaluation). It was a "teacher-talks, student-writes" orientation. The curriculum compartmentalized rather than integrated disciplines: arithmetic and mathematics were separate, as were geography and history. In contrast, the NNTEP philosophy emphasized problem-solving, the scientific method, the enquiry method, the logical sequencing of materials, regular testing of students' progress (formative evaluation), and the integration of related subject matter. Other AID-supported projects--particularly the Aiyetoro Comprehensive Secondary School (Harvard University) and Olunloyo College of Education (Ohio University) both in Western Nigeria--preceded NNTEP and influenced curriculum philosophy in the North. Through these various efforts, some of which AID supported, Nigeria went through at least five stages in the development of curriculum: (1) an emphasis on relevance, using Nigerian rather than English examples in the curriculum, (2) attention to technological transfer and development, with particular attention to improving mathematics, (3) use of objective testing rather than mainly subjective evaluation, (4) frequent testing rather than relying on

final-year examinations, and (5) a move toward universalism of the curriculum, away from state or tribal-specific examples and languages.

NNTEP and its philosophy of curriculum continue to influence education in the North. The University of Wisconsin developed curricular materials in five subject areas. Because of the civil war, the staff was reduced, curtailing the volume of materials that could be produced. While still under Ford Foundation management, however, the project had been delayed two years in the development of curricular materials and, therefore, the diffusion of these materials was behind schedule. Outside evaluators also criticized the project because it had "recruited American high school teachers with little working acquaintance with primary schools and their curriculum, and without much in the way of prior curriculum-construction or textbook-writing experience." These evaluators found curriculum materials for principles and practices of education particularly weak. Nevertheless, the Northern states seemed to have accepted the curriculum philosophy and the testing of the materials. The IE was given the copyright to these materials and charged with their further distribution and publication. The American director was from Ohio University and apparently did not pursue this challenge further. But the materials prepared for three areas--mathematics, social science, and teaching principles--are currently being revised, expanded, and will be published shortly, nearly twelve years after their first appearance. This effort is largely at the initiative of the ex-NNTEP participants. As these recent efforts are implemented, these materials should have a region-wide impact.

Working through its boards of study, the IE managed to develop a regional consensus on examinations and curriculum. This is a remarkable accomplishment in light of the potential balkanization of the region into separate states. Each state could have urged the development of its own curriculum, except for the three topics subject to the West African Examination Council. Instead of encouraging cultural diversity to parallel the development of individual states, a regional and national consensus on educational philosophy and curriculum developed. This process may actually have been facilitated by NNTEP's termination. Five of the six northern states had favored project continuity. They wanted it, however, to be continued on a state-by-state basis, perhaps with activities based on the development of particular TTCs and the state's MOE. Without the Wisconsin team, the states had to rely on their only education resource, the IE and its local links with boards of study that in turn were linked regionally with other boards. These boards coordinated by the IE helped create a regional curriculum consensus.

This consensus centered on academic education and teacher training, not on vocational skills, NNTEP reenforced an educational approach that the Nigerian government found appealing, as reflected in the continued growth of TTCs in the North. This may not have been the most appropriate approach to providing a manpower base capable of raising the skills of the Nigerian workforce to a desirable level. Despite a decade of growth,

there are only limited indications that the semi-skilled and unskilled labor force is better prepared to provide either agricultural or industrial labor sufficient to attract new industry. On the contrary, the evidence suggests some shrinkage in agricultural output and that the expansion of the education sector may have diverted some trained personnel into education, removing them from manufacturing and other industrial activities. At present, the evidence does not seem to justify the initial premise that expansion of the primary schools will provide a more skilled labor force.

C. Impact on Quality

Improving the quality of primary teacher training was the first of NNTEP's two major purposes. Wisconsin's original projections called for significant increases both in the annual production of teachers and in their quality: 46 percent of the 1970 graduates would earn a Grade II or higher certificate; only 13.3 percent would have less than Grade II qualifications. Actual accomplishments fell behind these targets; in fact the trend was down, not up. Before the start of the NNTEP in 1961, 48 percent of the TTC graduates who sat for the final teacher certification (Grade II certificate) examinations passed them; 54 percent passed in 1964. Pass rate information for Kaduna State for the years after the NNTEP was instituted indicates that quality dropped drastically; only 27 percent passed in 1975-76; 15 percent passed in 1977-78.

Those who fail the exams still enter teaching, and many of them retake the exams after attending in-service training classes. Therefore, even though initial pass rates have been falling, available statistics indicate that the qualifications of primary school teachers have been rising. In 1962, 15 percent of the 11,587 primary school teachers had a Grade II certificate; 41 percent (five percent below the 1970 target) of the 35,486 teachers in 1974-75 had this certificate.

On balance, trends in quality are mixed. TTCs are producing proportionately fewer quality graduates, but the quality level of practicing teachers has been increasing, in part because of in-service training. In-service training has also been a responsibility of the IE, but Ohio University under a separate AID contract played the major role in this program.

A number of influences, not anticipated by the designers of NNTEP, contributed to the downward movement in pass rates. First, UPE led to crash training programs to expand the number of students in TTCs. From 1962 to 1974-75, student enrollment in TTCs increased at an annual rate of 55 percent; the number of schools increased from 52 to 117; the number of students per class increased from 28 to 35; and some individual schools in the original group of seven tripled their enrollments, going from under 500 to over 1800.

An analysis of trends in school size and pass rates for TTCs in Kaduna State for the school years 1975-76 through 1977-78 indicates that pass rates fall as enrollment expands whereas, with enrollment declines, pass rates increase. Quality suffers when quantity is emphasized.

NNTEP planned to achieve quality education through the development of new curricular materials and improved teaching. The project ignored the organizational determinants of quality. For example, according to those familiar with the schools, the earlier, better quality voluntary schools had highly motivated students, dedicated teachers, and disciplinary powers over both students and teachers. Today Northern Nigerian TTCs are not organized in ways to encourage high quality performance either by students or by teachers. Instead of requiring letters of reference from the student's primary school, church, and community, a TTC student is assigned to attend a particular TTC; students are provided stipends; and there are no penalties for failure. Automatic promotion is the rule. Similarly, teachers are assigned arbitrarily to their TTCs. Because teachers hope to earn a higher degree so they can qualify to become a university student and earn higher salaries, they lose their commitment to their college. TTCs suffer high teacher turnover rates; there are no incentives for good teacher performance; and there are no negative sanctions for poor performance. Indeed, the wage and salary schedule encourages movement out of the TTCs as one's educational level increases. Principals are primarily business managers. Curricular and quality-control responsibilities are assigned to the MOE inspectorates. Inspectors are supposed to visit schools at least once a term, but these visits are necessarily brief and superficial. Evaluation and feedback are minimal.

There are no means, therefore, to assure that even the very best of curricular materials and teaching techniques will be adopted and properly used at the individual school level. NNTEP had a truncated view of the diffusion of its products. The project and the states to this day have ignored organizational influences on how schools operate to produce quality education. Organizational reform and more organized planning might help improve quality quite independently of additional resources or new teaching materials and techniques. These may come as the educational system ages and the pressures from UPE diminish.

D. Impact on Efficiency

NNTEP's second major purpose was improving the efficiency of primary teacher training through increasing the size of classes taught by the best qualified teachers and adopting innovative teaching techniques. Although progress was made in realizing this objective, little evidence exists that the innovations that were made are widely used today.

Increasing the average class size of certain courses taught by the best qualified teachers frequently proved to be impossible because of the limited physical size of individual classrooms. However, as schools have

expanded and new ones built, the average size of classes increased. This seems due to the manpower pressure generated by the UPE campaign, not to a deliberate desire to make maximum use of qualified staff. In fact, some TTC principals referred to larger class size in terms of "declines in quality."

Similarly, progress in improving learning efficiency by adopting team teaching, programmed learning, and audio-visual aides has been less than anticipated. In part, this is because the rapid expansion of the education sector exceeded the resources available for these innovations. NNTEP's termination before full diffusion of its products may also explain this failing. However, the failure of several other AID-supported projects contributed to NNTEP's lack of success. For various reasons, both an educational radio and television project (Modern Aids to Education) and the development of an indigenous publishing industry project (Educational Book Program) foundered.

In narrowly emphasizing the development of curriculum materials and new teaching techniques, USAID and Nigerian educators overlooked obvious constraints on teaching and learning processes in the Nigerian context. Although the emphasis in the NNTEP was on the development of curricular materials and new teaching techniques, interviews with principals, as well as a number of independent studies, indicate a serious shortage of books exists in TTCs and especially in primary schools. Recent World Bank-funded studies have found that the availability of textbooks has a significant impact on student learning and on the effectiveness of teachers. Because of the shortage of reading and other classroom materials, teachers in Northern Nigeria have reverted to the traditional practice of spending most of a class session writing the day's lesson on the blackboard. They have limited time to practice the enquiry approach to learning, the use of the scientific method, and the adoption of other curriculum and teaching techniques promoted by NNTEP and MOEs. The NNTEP planners ignored this problem.

E. Institution-Building

Political developments in Northern Nigeria during the course of the NNTEP radically altered the initial plans for institution-building. Wisconsin originally provided consultants to the single MOE for the Northern Region and to the IE. The reorganization of the Region into six states in April 1968 resulted in about six months of uncertainty and a loss of project momentum. Perhaps because no single Nigerian agency retained legal responsibility for developing the project, no clear sense of project-ownership developed. No one seemed to regard NNTEP as "their project," and because there was no plan for the host government to gradually assume financial commitment to NNTEP, much of the pressure to assure adoption and use of the project's innovations dissipated.

After the creation of six new states, the IE assumed added significance as the major region-wide coordinating and service center.

NNTEP consultants to the Institute provided assistance with boards of study and action research. The boards continue to play a significant role in teacher education in the region, and the Institute's Division of Research, Test and Measurement has helped direct attention to questions of teacher, curriculum, and educational materials effectiveness. A current IE study, for example, is examining TTC teaching practices in the ten northern states. A recent annotated bibliography of student research projects within ABU's Department of Education lists 888 completed projects, most of which are directly parallel and responsive to the Institute's concerns. This is an outgrowth of efforts of ex-NNTEP staff.

The Institute has developed into a major educational force for Northern Nigeria and NNTEP contributed to this development. The Institute's present director was a participant-trainee who went on to earn a doctorate from Wisconsin; its research division director is a former tutor, supported under the Ford Foundation grant, who returned to the Institute.

IV. LESSONS LEARNED FOR AID

1. Participant-training was highly successful because the trainees were non-university degree mid-career professionals working in an expanding sector that offered unusually good career opportunities. These factors may well have relevance in other cases. In the NNTEP the trainees were already into their careers, they had missed their chance to attend a university, the education sector was rapidly expanding, and the sector offered better career opportunities than other sectors. These conditions also applied to counterparts.

2. Projects involving adoption and use of innovative techniques within a multi-state federal system require both a single central implementing agency and the establishment of institutional networks and mechanisms for diffusing and coordinating the work flow of these networks. Boards of study were to provide the network for the diffusion and adoption of educational innovations; the IE served as the central energizing and coordinating institution. This network and mechanism was especially important in obtaining agreement on curriculum and examination matters. However, because NNTEP was not set up to check quality-control at the individual school-level, it could not implement the policies and procedures that the boards helped promote within individual schools. A more complete constraints analysis can, therefore, contribute to project design and success.

3. Donor agencies and host governments can not take it for granted that curriculum reform will be accomplished in a short period of time. Although NNTEP was, among other things, a project to replace an entrenched English educational philosophy with a Nigerianized American approach, AID was not prepared to commit itself to the long-term cyclical process of curriculum development, testing, revision, testing, and

further revision and development. Nor was AID prepared to fully provide all the complementary supports--such as textbooks, classroom equipment, and the development of planning and management capacities--needed for a major "systemic" reform. The subsequent adoption of an American-type educational philosophy can be partially attributed to NNTEP, but it is also attributable to Nigeria's own efforts to replace its colonial educational legacy, as well as to American successes over the years in winning acceptance of American curriculum philosophy by international agencies and both developing and developed countries, including Great Britain itself.

4. The host government is more likely to draw on an American university contractor for continuing assistance if the university is recognized as a superior institution. The degrees offered by the University of Wisconsin were superior to those offered by universities in Nigeria. Moreover, its faculty demonstrated continuing interest in the host government after the project was terminated. Many American universities maintain their interest in host governments after their contracts terminate. Encouragement to maintain these links can help provide continuity and even no-cost follow-up to sustain project success. These contacts also foster positive attitudes toward America and its universities.

5. The delivery of technical assistance should be structured in a manner that minimizes dual responsibilities and multiple if not conflicting supervisory authorities. NNTEP also demonstrates the need to plan projects with realistic time schedules, work assignments, and careful monitoring and evaluation. NNTEP had a number of built-in design problems relating to multiple teaching and curriculum development responsibilities, as well as to the relative supervisory roles of principals, IE, and the Wisconsin team leader. Because the project did not have a specified time schedule for the production of curricular materials, it was not possible to determine how far behind schedule the project was. The Ford Foundation and the University of Wisconsin apparently had agendas different from AID's, and although curriculum development was to be accomplished under the Ford portion of the project, neither the Foundation nor the GONN exercised strong management responsibilities to assure that progress was made. Deployment of tutor-curriculum-developers over seven (then four) widely dispersed TTCs further increased the problems of coordination and added to the difficulties created by the dual work responsibilities of the tutors. They came in two waves with minimal or no overlap to provide continuity. Teaching and an orientation toward Nigerian teacher education training obviously required direct involvement in TTCs; the development of curricular materials could have been facilitated by some other arrangement of staff and time.

6. AID should demonstrate to host governments alternative least-cost solutions to stated policy goals. The Agency seemed to have lost sight of the resources required for a significantly expanded education system,

and it also lost sight of the overall manpower development goals of the project. When the Ashby Commission started its work, Nigeria devoted an estimated 1.5 percent of GDP to education. This rose to 3 percent in 1966, and recurrent expenditures on education were averaging a 15 percent annual compound growth rate, as compared with a GDP annual growth rate of about 4 percent. In 1975, about 4.5 million children were in primary school nationwide; the figure was to rise to between 14 and 18 million in 1981-82. This large an expansion will require tremendous resources, more than even oil-rich Nigeria now has. Many of the students who benefit from this expansion will presumably go on to higher education in order to yield the higher level manpower numbers that informed the Ashby Commission's work. But this narrow view of manpower overlooks the economic base and manpower needs of the North, a predominantly low-productivity agricultural economy. Education of the type currently envisioned in the North does not appear to be linked to the economic development of the region and, as a consequence, it is likely that the educational investments there will give birth to low economic returns in the next decade.

AID never faced up to the statistics on resources and manpower needs in the North. This is not to fault NNTEP. As an alternative, however, USAID could have worked with the GONN to develop experimental projects that would have demonstrated the feasibility and value of alternative educational strategies for the agricultural North. For example, a three-year or a community school concept linking education to agricultural and rural development could have been tested. Rather than being a means to achieve economic development ends, there is a danger that education will itself become an end unrelated to other national needs and the resources available to meet these needs. If this happens, Northern Nigerians could become disenchanted with education.

7. Participant-training is one of the most effective least-cost strategies to achieve long-term project continuity and institution-building. Only three percent of NNTEP expenditures were for participant-training, but the small number of trainees supported by these funds account for a major portion of the project's achievements.

APPENDIX A

RESEARCH STRATEGY

RESEARCH STRATEGY

The three-person evaluation team consisting of Robert Mitchell, team leader, James Seymour, and Howard Tuckman, arrived in Lagos on March 23, where they spent two full days before leaving for Kaduna and Zaria. Two of the three evaluators spent three weeks in Nigeria; the other team member spent two weeks. The present report was drafted in Washington by Robert Mitchell.

The team encountered logistical and scheduling problems. Telephone and cable communications between cities proved to be inadequate, and because there is no AID Mission in Nigeria, the team had to arrange its own transportation and scheduling. A fire in Lagos destroyed the spare parts for the Kaduna Consulate's ailing vehicles, which could not then be made available to the team. The team inevitably wasted time in arranging appointments. Furthermore, air travel proved to be unreliable, which, in combination with the short time available in-country, further restricted mobility. Finally, the Easter recess began soon after the team's arrival. This limited opportunities to observe classroom situations.

Although all three members spent time together in Zaria, the team leader went separately to Kaduna and Minna for interviews; the other two members went as a team to Bauchi, with stops in Jos and Kaduna.

Formal interviews were conducted with 40 individuals working in the education sector. They included two members of the Federal Ministry of Education, 20 members of four different state MOEs (including three Permanent Secretaries and 11 inspectors), one principal of an Advanced Teachers College, nine TTC principals and vice-principals and eight members of Ahmadu Bello University, including five members of the Institute of Education. These 40 interviewees included six participant-trainees, one counterpart, and three former tutors from Wisconsin. Information was also provided by eight members of the U.S. Embassy on Lagos, the Consulate in Kaduna, and ICA. In addition, the team was able to informally interview a number of teachers, administrators and other experts during social gatherings and at larger group sessions--for example, at a statewide meeting of TTC principals.

Given the logistical problems and the general lack of understanding about the project, its impacts, and means by which these impacts could be measured, the team decided it was not feasible to formulate a strict division of labor among themselves. However, Howard Tuckman, author of Appendices C and D, gave relatively more attention to population and economic trends relevant to the project; James Seymour, author of Appendix B, assumed more responsibility for curriculum development; the team leader, Robert Mitchell, assumed responsibility for institutional factors, the history and structure of the project, its impacts, and the lessons to be learned from it.

The evaluation benefitted from special materials provided by the Kaduna State MOE, the library at ABU, and the professional staff of the IE. A local consultant was commissioned to track the career histories of the participant-trainees, counterparts, and students. The consultant also provided information on the incumbents of the top MOE positions in each of the ten states. Detailed scopes of work were prepared for each of these studies,

along with another uncompleted examination of significant departures over time in curricula, curricular materials, teaching techniques, and examinations relating to five subject areas.

By about the tenth day in the field, the team had its own version of a design scheme ("log frame") and a list of topics the team members were to cover in their individual interviews. The team was able to assemble as a group at least once every third or fourth day to exchange interview information and findings from documentary materials, test evidence, evolve a consensus, and identify new topics for the next series of interviews and readings. The team was concerned with pattern analysis and multiple independent confirmation of basic facts and reported events, not just with statistical information obtained from existing records and research studies. This incremental exploratory approach obviously departed from conventional evaluation methods of carefully designed control and experimental groups, before and after measures, and a focus on limited research objectives. NNTEP--and the time available to evaluate a project that terminated eleven years ago--did not lend itself to conventional analytical procedures.

The communications and logistical problems encountered by the team meant that individual team members typically arrived unannounced to arrange their interviews. Those visited in this manner were almost uniformly cooperative and interested in the work of the team. Particular thanks are owed Gabriel Iyela for arranging interviews in Kaduna State, Jonathan Ndagi for his advice and for facilitating the team's work at ABU, Darrell Dubey for his advice and for his research services in tracking the careers of NNTEP-associated trainees, counterparts, and students, and particularly Jack Reed for his counsel, interest and kind hospitality

APPENDIX B

NNTEP CURRICULUM DEVELOPMENT

A. Introduction

This appendix will review the significant aspects of the NNTEP curriculum [1] and will compare them with those of the current curriculum used in Teacher Training Colleges. There are striking similarities between the two curricula, although it is impossible to determine whether the NNTEP innovations brought these changes. More likely they reinforced other curricular innovations which foreign donors were introducing during the sixties, as well as changes which were taking place internally within the Nigerian educational system. The NNTEP curriculum, in effect, was a small facet of a multi-pronged approach by the Northern States to change dramatically primary school teaching and to improve the quality and efficiency of this teaching.

According to contemporary sources, the primary school during the Colonial period was sorely in need of change.[2] It was a highly selective institution to prepare and recruit indigenous Nigerians for white collar jobs in the civil service, and in some cases for the private sector. The emphasis was upon a strict education (or training) for the few, not a broad education for the many. The pervasive element was preparation for the Common Entrance Exam, and teachers concentrated on the few they expected to pass and neglected the majority they expected to fail. Only the examination subjects received attention: English language, arithmetic, basic science and a smattering of British, European and Colonial history and geography. Most all else in the curriculum, physical education, art, religious instruction, music, received little if any attention.

Teaching techniques were equally narrow. Usually the teacher wrote the lesson on the board in English, explained it in the vernacular, and commanded students to copy it in their notebooks in as legible English script as they could master. In the upper grades of primary school, prescribed lesson plans gave way to cramming sessions in order to prepare for the all important exam. Those who saw little hope in passing - usually the majority - dropped out before they reached grade six, as life at home and community was more rewarding than the pressures of the classroom.

Most who passed the exam went on to secondary school and were virtually guaranteed a salaried job. Those who barely passed or barely failed went to a Teachers Training College where they still had a second chance for a white collar job - but as teachers in the primary school. As the two streams separated, the social and academic distance betewen them widened. Teacher College graduates were doomed to a lesser stream, and with a "drop out" mentality, resigned themselves to teaching in the rural primary schools. They in turn perpetuated the narrow training (not education which they themselves

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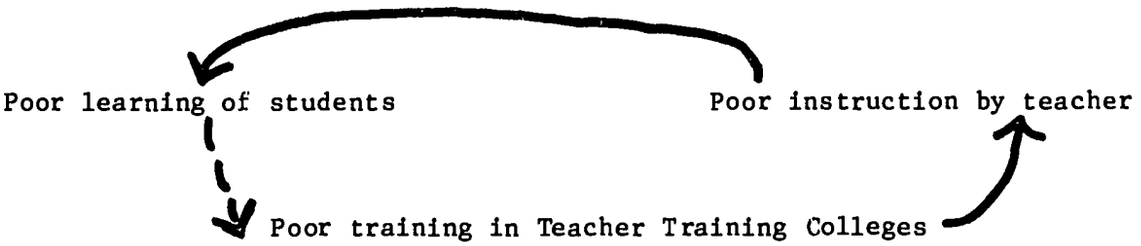
1. Curriculum is used in the broad sense here to mean a plan or program for learning, and is basically comprised of objectives, course syllabi, prescribed methods, implementing mechanisms and examinations.

2. The Philosophy of Nigerian Education. Ministry of Education. Lagos: Nigeria, p. 92 and passim, 1976.

experienced; soon they forgot or overlooked the improved methods they were taught in their college, and confirmed the adage that "one teaches as one was taught).[3]

A vicious circle began: poor instruction by the rural primary school teacher resulted in poor learning by the rural primary school student; only the best of these students (in fact, often mediocre) entered primary teachers training colleges, and their poor preparation and low ability prevented them from learning proper knowledge, skills and attitudes for teaching. This assured that the next batch of primary teachers would also instruct poorly. This "closing of the circle" reinforced and perpetuated, especially in Northern States, the low quality of education.

The Ashby report, 1960, called for Nigeria to expand its primary teacher training college facilities to meet the goal of educating 25 percent of the school age population in the North by 1970. On the other hand, this expansion would be for naught unless accompanied by improved quality of education, which remained at a low level, as noted above. This is diagrammed as:



Poor instruction caused poor learning, and poorly prepared students recruited into training colleges contributed to a low standard of training. Therefore the second arm of the strategy was to break into this vicious circle by concentrating in selected ways on improving the standard of training. In fact, teachers-to-be would be both educated and trained in the Colleges to insure they would acquire both knowledge and techniques.

"Selected ways" mean:

- Improving the calibre of the TTC's staff;
- Balancing the curriculum with teacher education and pedagogy;
- Maintaining student interest with attractive and meaningful courses;
- Attaacting better students by strengthening the incentives for teaching.

This strategy, then, was to transform a narrow educational system into a broad and relevant one for Nigerians; and the NNTEP curriculum fell in the middle of this strategy.

The next two sections will compare the NNTEP curriculum with the current one. Both will be treated under the same headings.

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3. Ibid

B. NNTEP Curriculum Development

From the NNTEP view, the project began in 1965 with AID picking it up in 1967. The initial thrust was to improve teaching approaches and techniques and the later emphasis was to develop course syllabi and materials.

1. Teaching approaches

The general philosophy of the NNTEP approach was to shift the emphasis from the teacher in the classroom to the student. Learning was to become active not passive, and the NNTEP teachers were to be as much catalysts, facilitators and orchestrators as they were lecturers.

The major approaches included:

- Problem solving: Rather than focusing on topics, NNTEP teachers encouraged students to focus on problems (e.g., why do cities rise vs. the history of Kano).

- Inquiry approach: Begin a lesson by posing questions rather than making assertions (e.g., how is the school compound a human settlement?).

- Integration of materials: If the above approaches are to be used, then social studies would be more useful than only history or geography; or if oral/written communication was the objective, then language study and literature would be combined; and if logical thinking was a goal, arithmetic would be learned along with new math, algebra and geometry - in effect mathematics.

- Scientific method: In science, students were encouraged to observe, propose a relationship, verify it, and try to see if it fit into a pattern.

- Formative evaluation: Counterparts were encouraged to test, review, revise and test again their own teaching techniques, tests and aids. This was encouraged in addition to the formal field testing through active research of NNTEP materials and techniques.

2. Teaching Techniques

Specific techniques were introduced at the six NNTEP TTCs to improve the "efficiency of learning" (students attain as high if not higher learning objectives through less costly and less time-consuming techniques); They are:

- Team Teaching
- Large group instruction accompanied by audio-visual aids
- Individualized (programmed?) instruction with the use of language labs.

It is questionable whether these techniques were ever accepted by the counterparts and doubtful that they are being used widely today. However, underlying all these approaches and techniques were two factors which Nigerians independently reported.

- Their novelty made them attractive and susceptible to being used;
- NNTEP teachers used them in a way which conveyed concern, caring, and empathy for individual Nigerian students.

3. Course Syllabi

It appears that only in mathematics was an entirely new syllabus written. The NNTEP course inputs were mainly in organization and use of the above approaches/techniques. All the major subjects were rearranged so that the parts were logically sequenced. Key characteristics of each are:

- English: Language was integrated with literature; audio-visual aids were introduced to improve speaking and listening; "controlled composition" techniques were introduced to focus on a subject and to develop writing skills; intensive reading in groups alternated with extensive reading by individuals; African stories were encouraged.

- Math: Other subjects of math (algebra, etc.) were related to arithmetic; Entebbe workshop materials were introduced; New Maths were introduced; the four basic operations in arithmetic were connected, not taught discretely.

- Geography-history: Principle of moving from the "known to the unknown" was stressed; audio-visual materials were used; basic principles of social sciences were introduced.

- Science: The "scientific method" was the guiding principle for individual experimental activities; the "systems approach" was used to understand interrelationships.

- Education: While methods were taught in the last two years and content in the first three for each subject, there was an attempt to integrate them, especially in geography-history. Also child and educational psychology were taught in basic form. Students were encouraged to visit classrooms and observe the teaching-learning process.

4. Materials

At the end of the project the following were rated as completed.

- English 902 Textbook Seven (6 volumes)
- Transform Drill/Teachers Manual. One volume printed, two mimeographed.
- Math for Teachers Colleges. (2 volumes)
- Concepts in Education: Teaching for a New Nigeria.
- Geography - History Methods.

As of June 1969, more were to come. It was not determined whether any of these publications are in use today.

5. Institutional Service

Institutional service assisted the curriculum development in three ways by:

- strengthening linkages among the Institute of Education (ABU), the TTCs and the MOE for the Northern States;
- providing in-service courses to teacher counterparts in the TTCs;
- coordinating the Boards of Study and the MOE exam office regarding the synchronization of course and exam content.

The first and third ways were mostly achieved through the coordinating activities of the NNTEP representatives in the Institute of Education and in the Ministry of Education respectively. In-service courses essentially demonstrated and reviewed the innovative approaches, techniques and materials mentioned above. The Institute also carried out field testing of some of these approaches.

C. Post-Project Curriculum Development

A review of key documents, especially the Philosophy of Nigerian Education and The National Syllabus for Teacher Training Colleges, indicates definite continuities between NNTEP and current curricular developments. Today the primary school has the same overall objectives that it did during the NNTEP project: to provide a basic education for Nigerian youth, especially in terms of the acquisition of literacy/numeracy skills and expósure to scientific and reflective thinking, and to strengthen the youth's awareness and pride in the Nation of Nigeria.

1. Teaching Approaches

The model teacher should teach in such a way as to carry out the basic charges of the primary school noted above. To do this he must:

- be well educated, trained and committed to teaching
- develop a spirit of inquiry, creativity and learning
- inspire confidence, a sense of continuity and loyalty to Nigeria
- make the child "literate and numerate"
- develop scientific/reflective thinking and a variety of skills
- instill nationalism and an awareness of social and economic process.

In reality, few teachers probably do this. However, in an effort to improve the standards of the teachers, five themes have emerged in the past decade, and they no doubt influence their approach:

- Relevance: Teachers in training are encouraged to "think Nigerian" whether it be in terms of national values, the use of local items, or reference to local phenomena. In addition they are encouraged to draw upon student experiences (e.g., reference to traditional money or kinsmen to form sets and subsets) rather than abstract notions; and to construct the lesson at hand with the children's environment, mainly rural.

- Technology: Teachers are to be well educated as well as trained. They must have a solid grounding in each subject before they can be expected to teach it. This implies knowledge of technical aspects of subject matter in addition to pedagogy. Thus the main curriculum received a heavy dosage of New Math in the early seventies; however, as developed countries became disenchanted with New Math, so did Nigerians. Consequently there is no reference to it in the current curriculum.

- Exam Objectivity: Traditionally Nigerian teachers evaluated student learning through short sentence and essay exams. However, "American influence has encouraged the use of multiple choice and true-false items." The rationale is that teachers will be able to evaluate students more objectively (this assumes the questions themselves are not biased).

- Continuous Assessment: Primary teachers (as well as all teachers) are encouraged to use a variety of measures of students (both externally and internally-set exams) to evaluate their own teaching methods. If they have inconsistent findings, they are encouraged to review their teaching methods.

- Universal Primary Education (UPE): Political forces have pushed UPE into the forefront. Enrollments are mushrooming throughout the nation. This proliferation most likely constrains the teachers being able to instruct efficiently and effectively:

2. Teaching Techniques

References were made in documents and the interviews about training teachers to cope with educational expansion more efficiently, especially in terms of team-teaching, multi-class teaching, and large group instruction. Unfortunately, it was impossible to verify whether these techniques were actually used in classrooms.

3. Course Syllabi

A review of the teacher training syllabus revealed difinite thrusts for each of the five core courses,[4/] and most of these reflected the earlier thrusts of the NNTEP curriculum. Indeed, the fact that the National Curriculum Conference was held at the Institute of Education (ABU) suggests that the standardization of the teacher-training curriculum in the Northern States was influencing the other states. For example,, subject objectives are usually stated in behavioral terms (e.g., Student divides correctly 3-digit numbers by 2-digit numbers).

- Language - Again, language-learning was not to be divorced from literature, and the use of African stories and novels in English was encouraged. The overall goal is to develop proficiency in listening, speaking, reading and writing. Audio-visual materials are encouraged. Following the "Nigerianization" of the curriculum, separate syllabi are given for Edo, Efik, Hausa, Igbo and Yoruba.

- Math - This curriculum follows the same format as the NNTEP one - Topic, Objective, Content, Activity and Remarks. The major difference is that the 1978 revised one eliminates for the most part New Math content and processes. Emphasis is upon problem-solving, application, and integration of math and arithmetic.

- Science - The syllabus emphasizes practicing the processes of science, or experimental, and practical individualized learning. This includes "inquiry and problem-solving" approaches as well as the scientific method. Another practical approach, using relevant phenomena, encouraged students to use the school compound as an ecosystem in order to serve the interaction between climate, trees, gardens, soil and animals. In addition, agricultural science is taught separately, and this emphasizes the application of principles of husbandry, soil science, and botany.

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4. Additional courses include, among others: Physical/Health Education, Islamic historical/religious studies, home economics, arts and crafts, vernacular languages, woodwork and Arabic.

- Social Studies - Again the integrated approach is emphasized, though with a strong Nigerian cognitive and affective bent. Principles of the social sciences are to be used.

- Education This is divided into knowledge and methods. Knowledge includes history of western education and principles of child development and educational psychology. Methods included are the ones proposed by the NNTEP.

4. Institutional Service

Currently the Institute of Education (ABU) provides five basic services to MOEs and TTCs in the North, all of which are to reinforce the spread of curricular innovations:

- In-service staff training
- Research and feasibility studies
- Development of syllabi and materials
- Installation of media
- Textbook and teaching aid production

Documents and interviews revealed that the Institute is a viable and helpful unit with sufficient work to do. Complementing the Institute are Teaching Resources Centers which are based in seven of the ten state MOEs.

The TRCs are to:

- Develop and improve instructional materials through in-service courses (emphasis is upon simple devices and local items used to help convey principles)
- Develop and improve instructional methods through in-service courses
- Visit schools to monitor projects which the TRC has set in motion; and to develop further projects.

Clearly there is a support/service role performed by central and local institutions, a theme which NNTEP encouraged 15 years ago.

Most important, the Institute plays a role in constructing and adapting internal exams (as opposed to the external ones of English, Math and Education set by the West African Examination Council). With the coordination of the MOE Inspectorates, subject area specialists identify the best questions for the internal exams. Not only does this improve objectivity, but it reinforces curriculum standardization in the North. Just as the TRCs are collaborating with the Institute for curriculum development, so is the National Teaching Institute (Kaduna) doing so for exam construction/standardization.[5]

D. Conclusion

In almost an atavistic way, Nigeria faces the same primary educational problems it did twenty years ago: How to expand and improve the primary system. Some progress has been made, for on the average Northern States pass 30 percent of those who sit for the Common Entrance Exam with 20 percent

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5. In fact the NTI may be taking over this function entirely.

going on to secondary school and 10 percent entering TTCs. The advent of UPE, however, has diluted much of the progress made toward improving educational and teacher training with declining standards of instruction, shortages of textbooks and aids, and a lack of field supervision.

What then can be said of NNTEP's curricular efforts? First, NNTEP's purpose, to improve the quality and efficiency of teacher education in the North, was entirely consonant with the Ashby Report and subsequent Nigerian strategies for primary education. The curricular inputs to the project specifically addressed improvement, and the project itself was only one facet of a conceived uplift of primary education. In addition, the project reinforced the move toward standardising curricular development and exam synchronization in the North.

Second, there are numerous continuities between NNTEP curricular inputs and subsequent Nigerian ones. This begins with the function of the primary school, as conceived by Nigerians, as key to the diffusion of mass education for nation-building. More specifically, the subject matter thrusts in the core subjects persist in Nigerian curricular documents. In addition, NNTEP innovations, such as inquiry learning, integration of subject matter, the scientific method, application, and formative evaluation reappear in documents and interviews as prescribed approaches to learning. Also, the Institute of Education, the National Teaching Institute, the Teaching Resource Centers have assumed key roles in implementing and evaluating the curriculum.

On the negative side, however, the techniques of team teaching, large group instruction, audio-visual aids, and programmed instruction (all of which address efficiency) did not appear to be received by Nigerians nor to be used today.

Finally, it is difficult to identify the NNTEP influences upon the continuities of syllabi thrusts, approaches and institutional services. No doubt it contributed to them, but probably more in a synergistic and catalytic way than in a one-to-one casual relationship. Nigeria was open to many curricular innovations in the sixties and early seventies, and NNTEP <u>in coordination with</u> these innovations probably contributed to the persistence of some innovations. From a curricular point of view this is probably the strength of the project: It reinforced and heightened the impact of other outside efforts to encourage the Nigerians themselves to continue to develop them as well as the principles behind them.

APPENDIX C

EXPANSION AND THE NORTHERN NIGERIAN EDUCATIONAL SYSTEM

EXPANSION AND THE NORTHERN NIGERIAN EDUCATION SYSTEM

The expansion of the Northern Nigerian education system has been dramatic from 1962 to 1974-75. The number of primary schools rose from 2,568 to 5,611, the number of secondary schools rose from 50 to 264, and the number of teacher training colleges (TTCs) increased from 52 to 117. Since 1975, the continuing commitment of the Nigerian government to Universal Primary Education (UPE) has further increased both the number and size of the educational institutions in Nigeria. For example, the 1981 federal budget contains funds for construction of facilities at 6 Advanced Teachers Colleges (ATCs) nationwide, for expansion of 5 federal government colleges, for completion of development and site work at 19 federal government colleges for girls, and for various activities at 18 additional federal secondary schools. Most of these projects involve extensions of work begun in 1980, but two projects are new. Capital spending for teacher education is budgeted at 524.2 million Niara in 1980 and at 76.5 million in 1981. At the secondary school level, the comparable figures are 127.2 million and 65.9 million. The decline in expenditures in 1981 is due to the completion of a number of projects necessary to implement UPE.

In evaluating the Nigerian experience it is important to explore whether the expansion in the number of students entering the education system was met by increases in average class size, by increase in the number of classes, or by expansion of the number of teachers. Examination of the average number of students per teacher at the primary schools in the period 1962 through 1974-75 reveals that the number hovered between 31 and 33, despite an annual 25 percent growth rate in the number of students. A relatively constant ratio was achieved by increasing the number of teachers from about 11.6 thousand to about 35.5 thousand while the number of students rose from 359.9 thousand to almost 1.2 million. In the same period, the number of students per class remained between 35 and 37.

In contrast, at the higher education levels the number of new teachers produced failed to keep pace with growing enrollments and, as a result, class size rose. In the secondary schools the number of students per teacher increased from 17 to 24. At the same time, the number of expatriate teachers fell by about 3 percent per year and the number of students per class rose from 27 to 36.

In the TTCs the number of students expanded from 6,320 to 44,965, with the largest increase occurring between 1973-74 and 1974-75 (15,955). This rapid expansion was accompanied by an annual growth in the number of teachers during the period of only 36 percent and an annual decline in the number of expatriate teachers of over 3.5 percent. The consequence was that the number of students per teacher rose from 15 to 23 and the number of students per class rose from 28 to 35. Note that these figures do not reflect the substantial increases in enrollment which occurred in the latter part of the 1970s and hence probably understate current ratios.

Despite a substantial increase in the number of schools built during the period, the number of students per school increased sharply from 160 per secondary school in 1962 to 334 in 1974-75 and from 21 students per TTC in 1962 to 384 in 1974-74. As a consequence, the size of the average Nigerian

secondary school increased, although it remains below that size which is often thought to be economically efficient in the U.S. In part, this is an outgrowth of a conscious decision by the Nigerian government to construct schools which are geographically proximate to students. The presumption appears to be that proximity increases access and results in a larger proportion of the school age population seeking an education than would otherwise by the case.

Structural Changes in the Nigerian Education System

The uneven growth rates in the three types of institutions (primary, secondary, and TTC) have altered the composition of the educational sector. While the primary schools continue to dominate the scene, the number of secondary schools has increased relatively while that of the TTCs stayed relatively constant. From 1962 to 1970, the number of secondary schols rose from 2 to 5 percent, falling back to 4 percent in 1974-75. During the period, the TTCs constituted about 2 percent of the total number of schools.

The relative growth in the importance of secondary education is further reflected in the composition of the student body. From 1962 to 1974-75 the proportion of students in the secondary schools grew from 2 to 7 percent while the proportion in TTCs grew from 1.7 percent to 3 percent. In contrast, the proportion of students in primary schools fell from 96 percent to 90 percent. Finally, the percentage of teachers at secondary schools more than doubled (4 to 9 percent) while the percentage at TTCs increased by 66 percent (from 3 to 5 percent). Taken together, these data suggest an evolution in the educational system of Northern Nigeria toward greater provision of post-primary education. They also suggest a relatively greater emphasis on secondary school training than on TTCs.

Qualitative Changes Due to Expansion

The rapid expansion in the number of teachers at each educational level raises the question of whether the Northern schools found it necessary to accept teachers with less desirable credentials in order to meet their needs. In 1962 about 52 percent of the primary school teachers were at a Grade III level or better. (Grade III teachers or better are desirable, presumably to ensure that the teacher knows more than the student.) In contrast, about 42 percent were below Grade IV. By 1966, just before the AID project began, almost 60 percent were at Grade III and above and slightly more than 36 percent were below Grade IV. By 1970, just after completion of the project, the percentage at Grade III and above increased to 70 percent and the percentage at Grade IV almost doubled (45 percent) over 1966. The percentage below Grade IV decreased by 30 percent (to 37 percent). These figures suggest substantial improvements over the course of the decade.

Data after 1970 suggest that the expansion of the system had a negative effect on the credentials of the professoriate. By 1974-75 the percentage of Grade III level teachers and above had fallen to 63 percent as the below Grade IV category increased to 35 percent. The rapid expansion that occured after 1976 almost certainly augmented the Grade IV and below category while a pattern of educational upgrading may have led many of the best teachers to find employment at other levels of the educational system.

It is difficult to find a clearcut trend in the credentials of teachers at the TTCs. The percentage of teachers at Grade III level or below was about 7 percent in 1962, rose to 8 percent in 1966 and to almost 14 percent by 1970. At the same time, the figures show little evidence of an upgrading at the Grade II level or in the number of teachers with approved graduate or equivalent degrees. Confounding the statistics further is the gradual out-migration of many well trained expatriates from Nigeria. Between 1970 and 1974-74, the data suggest a slight decline in the percentage of teachers with credentials below Grade III and a significant improvement in the percentage of teachers with approved graduate or equivalent degrees (from 36 percent to about 40 percent). Note that these data end in 1974-75 and thus do not reflect the full effects of UPE.

At the secondary school level the trend is somewhat different than that at the TTCs since the increase in the percentage of teachers below Grade III is more dramatic. From 7 percent in 1962, the percentage increases to 17 percent in 1966 and hovers there until 1970 and 5.5 percent in 1974-74. The percentage with Grade I and II degrees falls from 14 percent in 1966 to about 7 percent in 1970 and 5.5 percent in 1974-75. Those with approved graduate degrees or equivalents represented 61 percent of the total in 1962, 56 percent in 1966, 50 percent in 1970, and 52 percent in 1974-75.

Did the AID Project Affect the Course of Educational Development in Northern Nigeria?

The rapid expansion of education in Northern Nigeria in the last two decades, together with the short lifespan and limited number of TTCs involved, makes it difficult to identify the unique effects of the AID project. Even if the project has been so successful that all of the students trained at the affected institutions had passed the Grade III exams, it is doubtful that this would have substantially affected the aggregate totals for the North, particularly given the drain of expatriates from the system. Nonetheless, it is appropriate to provide a rough estimate of the number of students affected by the curriculum approaches and teaching styles discussed in the body of our report.

On a crude basis we estimate the total number of students in attendance at the project schools at 2,590. Assuming that all students in the school were affected and that classes are equal sized, we estimate that the project directly impacted somewhere between 3,600 and 5,000 students. This allows for normal dropout and replacement of students but makes no allowance for attrition since in the North dropouts are immediately replaced by new entrants. The argument is frequently made a multiplier or cascade effect exists because the students directly affected by an instructional project, in turn, impart their knowledge to other students. On the assumption that the multiplier effects do not extend beyond the second generation and based on reasonable assumptions concerning attrition from the system, dispersion of project beneficiaries across schools, and other factors, a crude estimate can be made of the number of students. On the assumption that the multiplier effects do not extend beyond the second generation and based on reasonable assumptions concerning attrition from the system, dispersion of project beneficiaries across schools, and other factors, a crude estimate can be made

of the number of students indirectly affected. Our best guess is that somewhere between 180,000 and 900,000 students were impacted by the project since it was completed. This represents a small proportion of the total students graduated from primary schools during the period (less than 10 percent) but a fairly large absolute number of beneficiaries. Measured on this base, the average costs of the project are likely to have been much lower than those reported elsewhere in this report. In addition to the cascade effect, some qualitative improvements in the educational level of program participants may also have occurred. We are unable to provide evidence on either the depth or breadth of such effects. However, it is noteworthy that many program participants have remained in contact as they progressed through the system and that most graduates of the NNTEP project are still in the educational system.

Educational Expansion and Its Effects on Women

In Northern Nigeria, as in other Muslim areas, the percentage of women at various levels of the educational system is fairly low. In 1962 about 19 percent of the students at TTCs were women; at secondary schools the comparable figure was 22 percent. The enormous increase in the number of students in the educational system increased the absolute number of women at educational institutions but left the percentage about the same in 1974-75 as it had been in 1962. Apparently, the relative position of women did not change as a result of the expansion. It should be noted, however, that had Nigeria chosen to put greater emphasis on technical, commercial and craft schools, the relative educational position of women would probably have worsened because few women have entered these types of institutions, either currently or historically.

To the extent that the AID project emphasized TTCs rather than technical schools, and insofar as this influenced the direction of educational policy in the North, the project may have had some positive benefits for women. Unfortunately, neither AID nor the other donors dealt directly with the two problems which hamper the progress of women through the educational system: a relatively high dropout rate and a higher failure rate than their male counterparts. While a partial explanation for these "inefficiencies" can be found in the importance placed upon marriage and family in the North, economic reasons also exist for these differences. Our study of top personnel at the state ministries produced few Nigerian women in top positions. Likewise, the few women administrators whom we met during our interviews at the TTCs were expatriates. Even at the primary school teacher level (usually populated by many women in the U.S.), the percentage of females hovered at 14 percent during the 1960s and rose by only 3 percentage points in the mid-1970s. At the TTCs the proportion of women teachers grew from 25 to 30 percent from 1962 to 1966 but began to decline in the 1970s. In the absence of a stronger economic and career incentive to seek additionaal schooling, the proportion of women incurring the real monetary and non-monetary costs of additional schooling is unlikely to grow substantially.

The Appropriate Direction for Education Expansion

It seems clear that the AID project reinforced an educational approach which the Nigerian government found appealing. This is reflected in the government's continued efforts to encourage the growth of TTCs after the

project was completed. Less clear is that this was the appropriate approach to providing a manpower base capable of raising the skills of the Nigerian workforce to a desirable level. Despite a decade of growth, there are only limited indications that the semi-skilled and unskilled labor force is better prepared to provide either agricultural or industrial labor sufficient to attract new industry. On the contrary, the evidence suggests some shrinkage in agricultural output and that the expansion of the educational sector may have diverted some trained personnel into education, removing them from manufacturing and other industrial activities. At present, the evidence does not seem to justify the initial premise that expansion of the primary schools will provide a more skilled labor force. In fairness to this argument, it should be noted that a decade may be too short a time period to inculcate new skills in the labor force. Nonetheless, a question remains as to whether the traditional educational approach employed in Northern Nigeria is the best one for meeting that area's manpower needs. And in the absence of a more successful economic development program, it is unclear that the products of UPE will find their career prospects substantially enhanced.

APPENDIX D

THE FINANCING STRUCTURE FOR EDUCATION IN NORTHERN NIGERIA AND ITS EFFECT ON THE GROWTH OF THE TTCS

THE FINANCING STRUCTURE FOR EDUCATION IN NORTHERN NIGERIA AND ITS EFFECTS ON THE GROWTH OF THE TTCs[6/]

By any reasonable standard, the growth in the number of Teacher Training Colleges (TTCs) in Northern Nigeria has been substantial. In 1962 Northern Nigeria had 52 TTCs and 430 teachers. By the end of the decade the number of TTCs had grown to 67 and the number of teachers to 874. Estimates for the latest year in which consistent data are available (1974-75) show further increases to 117 TTCs and 1,998 teachers. Since 1975, the growth has accelerated reflecting the effects of Universal Primary Education (UPE). The substantial increase, both in absolute and relative terms, in the Nigerian commitment to the expansion of teacher training in the North has consumed a substantial proportion of the country's scarce resources.

Federal Revenue Sources

The sources of revenue for federal and state governments affect the long-term viability of the considerable expansion of the educational sector. The major recipient of tax revenues in Nigeria is the federal government. In the early sixties the largest source of revenue for the federal government was customs and excise taxes (about 190 million Naira). (Official exchange rate February, 1981 of N 1 = US $1.73) These provide about 72 percent of the 1964-65 revenues of 264 million Naira and from 1964-65 to 1975-76 grew at a rate of about 36 percent per year. If this had been the primary source of government funding for education throughout the period, it is unlikely that teacher education facilities could have been expanded as rapidly as they were. Indeed, a 1972 article pointed out that in 1967 the Northern Ministry of Education estimated the recurrent cost of a UPE program in the North at 38.5 million pounds; at that time actual government recurrent expenditures on all services in the North were only 30 million pounds. This led the author of the article to argue for the need to limit the growth of education expenditures to the rate of growth in federal revenues. Implicit in this argument was the recognition that the education sector was growing more rapidly than federal revenues could then sustain.

Beginning in 1967-68, direct taxes, consisting largely of the proceeds of a petroleum profits tax imposed on the profits of foreign oil companies, began to grow. Receipts from this source rose from about 6 percent of total revenues (16 million Naira) in 1965-66 to about 65 percent of 1975-76 revenues and about 60 percent of 1977-78 revenues. From 1964-65 to 1977-78 receipts from the petroleum tax rose over 277.8 times, contributing substantially to the growth in federal revenues. By 1977-78 direct taxes added about 4,568 million Naira to the federal treasury. At the same time, revenues from mining began to accelerate, increasing 120 fold from 14.62 million in 1964-65 to 1,773 million, or 23 percent of 1977-78 revenues. No other revenue sources matched the growth in these two categories and during the period revenues from licenses/fees and post/telegraph declined. Overall, total tax revenues grew from 264 million Naira in 1964-65 to 7,652 million Naira in 1977-78 -- an over 28 fold increase in revenues over the 13-year period. This dramatic increase made possible a major expansion of the educational sector in Northern Nigeria.

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6. The invaluable assistance of Jonathan Ndagi and the Institute of Education at Ahmadu Bello University in supplying the data used in this section is gratefully acknowledged.

State Revenue Sources

Disaggregated data on the major revenue sources for the individual Northern Nigerian states are not available. However, available data for Kaduna State indicate that over 81 percent of the state's recurrent revenues are from federal reimbursements. The next largest revenue source, the personal income tax, yields less than 9 percent of state revenues and the third largest source, licenses and fees, yields about 6 percent. Unlike the situation in the United States, revenues from property taxes yield very little revenue to local or state governments and sales taxes constitute roughly 2 percent of the total. These figures suggest that the states have little independent ability to sustain an educational system.

Perhaps the most interesting aspect of the revenue structure is that 99.5 percent of the reimbursement funds from the federal government are for TTCs and primary education, 24.8 percent for TTCs and 74.8 percent for primary education. Under the present system, a state that decides to expand the number of TTCs in its jurisdiction can significantly increase its reimbursements from the federal government. Since only a handful of other grants-in-aid are available, a strong incentive exists for a state to increase its TTCs as a means to acquire additional federal funds. This arrangement has been partially responsible for the substantial growth in the number of TTCs and has helped to make education a "growth" industry. In 1977-78, education consumed 30 percent of the budget of Kaduna State, 33 percent of the budget of Benue, and 35 percent of the budget of Sokoto State. In contrast, health expenditures consumed less than 8 percent of the budget and agriculture less than 10 percent.

Expenditures on TTCs

During the 1977-78 fiscal year the Federal Ministry of Education was budgeted to spend approximately 276 million Naira on teacher education. Of this amount, 126.3 million (46 percent) was scheduled for expansion and rehabilitation of primary schools attached to TTCs; 56 million (20 percent) was for expansion of existing TTCs and a similar amount was for building new TTCs; 25 million (9 percent) was for loans to states for running excess TTCs; and 2.8 million (4 percent) was for special grants to TTCs. Additional amounts are available to states for loans for teachers' salaries. Unfortunately, data could not be obtained on the proportion of these expenditures directed at the Northern Nigeria states.

Since both federal and state funds are utilized to finance teacher training, average costs must be estimated at the state level to avoid the problem of double-counting federal grants and reimbursements. Data for Kaduna State indicate that the annual cost of trianing a TTC student was about 398.5 Naira in 1968. By 1977-78, according to the statistical sources available to the evaluation team, this cost has risen to almost 2,000 Naira (!), an over 4-fold increase in less than 10 years. Of the 1977-78 amount, about 44 percent went for maintenance of students, 32 percent for staff salaries, and 18 percent for other expenses. Only 6 percent was allocated for books and equipment. In evaluating these figures, it is important to recognize that the largest growth occured in the student maintenance category and that substantial savings (7 million Naira or 44 percent of the total expenditures on TTCs in Kaduna) might be achievable if schools could be run on a

commutation rather than a boarding school basis. Conversion of even a few boarding schools could provide badly needed funds to alleviate the critical shortage of library books and audio-visual materials that pervades all educational levels in the North. The major impediment to such a conversion is the lack of adequate transportation to facilitate travel between home and school.

Evaluation of the representativeness of the figures for Kaduna State in terms of the other Northern States is difficult. No doubt some differences exist between states with large urban areas (e.g., Kano) and those with populations dispersed across large distance (e.g., Bornu), and between the richer and poorer states. However, federal standardization of the salary structure, as well as other guidelines laid down by the Ministry of Education, seem to imply that Kaduna's average costs are reasonably representative of teacher training costs in the North.

Sustainability of the Current Expansion of the Educational Sector

The growth in the education sector's share of federal recurrent expenditures in the period 1968-69 to 1977-78 shows the effect of a conscious policy to emphasize educational development throughout Nigeria. Education's share of recurrent expenditures rose from about 8 percent of the total in 1968-69 to over 25 percent in 1977-78. In the same period, the share of agriculture fell from 1.6 percent to 0.6 percent and of health from about 4 percent to 3.5 percent. The defense share rose from 16 percent to almost 39 percent in 1973-74, falling to 26.5 percent in 1977-78. This made the defense category the largest item in the federal budget, although it received only 31 million Naira more than education.

The increase in educational expenditures during the period accompanying the completion of the project was sustantial, particularly after 1976-77 when Nigeria implemented UPE. Whether this level of activity can be sustained is problematic. Clearly, the entire educational system of Nigeria is heavily dependent on federal support. Most of the Northern states are not able to sustain any significant primary school and TTC program with their existing revenue sources. Since a major portion of federal revenues come from petroleum profits and mining, it seems likely to be related to Nigeria's experience in the world energy market. Sharp drops in oil revenue, either due to a decrease in demand or to a change in Nigeria's share of OPEC revenues, will most likely be translated into reduced levels of education. These cutbacks could be particularly severe if the high levels of inflation which currently affect the Nigerian economy persist. It also seems likely that future governments will be forced to deal with rising demands for resources from other sectors of the economy. Thus, some contraction of the UPE concept seems likely in the future.

No. 10: Tunisia: CARE Water Projects (October 1980)
No. 11: Jamaica Feeder Roads: An Evaluation (November 1980)
No. 12: Korean Irrigation (December 1980)
No. 13: Rural Roads in Thailand (December 1980) PN-AAH-970
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